

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities: elements in drawings are referred to by multiple descriptions. For example, Figure 1, elements 12 and 20.1 are designated as both “camera devices” (p. 7, line 14) and “image sensor 12” (p. 7, line 15) and “optics 20.1” (p. 7, line 16). Labeling and identification of elements shown in drawings should be consistent throughout the specification. Appropriate correction is required.
3. Additionally, the specification contains examples of non-idiomatic language, such as “surprisingly” (p. 8, line 23). This renders the specification unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Regarding claims 2 and 3, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

7. Regarding claim 3, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

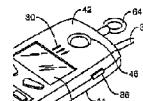
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1, 4- 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vance et al., U.S. Patent No. 6,992,699 (hereafter referred to as 'Vance'), in view of Vance et al., Pub. No. 2002/0160724 (hereafter referred to as 'Vance').

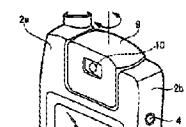
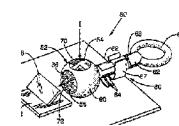
11. Regarding Claim 1, Vance teaches an electronic device (Fig. 2), which includes:

- a case structure (Fig. 2, [40]);
- a display component fitted in connection with the case structure (Fig. 2, [26]);
- camera devices (Fig. 4) that can be oriented, fitted inside the case structure including an image sensor (Fig. 4, [32]) fitted entirely inside and optics (Fig. 4, [52]);
- an aperture arrangement including at least two apertures (Fig. 2, [46]; Fig. 3, [48]) fitted in the case structure, for exposing the image sensor directly from the outside;

Vance does not teach that the image sensor is rotatable in connection with the optics and that the image sensor and the said part of the optics are linearly moved in the case structure, in order to permit their rotation. Arai teaches that the entire camera unit, including the image sensor (Fig. 3, [33]), is rotatable in at least two directions (Fig. 1), to the display side and the opposite side relative to the display and the optics and image sensor are linearly arranged therein to permit the rotation (Fig. 3). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included the rotation of the image sensor as



with the



taught by Arai in the invention taught by Vance in order to insure proper alignment of the optical path with the imaging sensor surface.

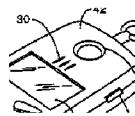
12. Regarding Claim 4, Vance in view of Arai teaches the invention as claimed above. Vance additionally teaches there are shutter devices (Fig. 7, [90]) for closing the aperture that is not in use at the time (col. 5, lines 25-27).

13. Regarding Claim 5, Vance in view of Arai teaches the invention as claimed above. Vance additionally teaches that the shutter devices are in connection with the camera devices (Fig. 7, [90]; col. 5, lines 25-27).

14. Regarding Claim 6, Vance in view of Arai teaches the invention as claimed above. Vance additionally teaches that in connection with the camera devices there are detection devices (Fig. 4, [80]) for determining the exposure direction in use at the time.

15. Regarding Claim 7, Vance discloses a method for controlling the orienting of camera devices in an electronic device (Figs. 1 and 4, [64]), in which there are directional camera devices inside the case structure of the device (Fig. 4), including at least an image sensor (Fig. 4, [32]) and optics (Fig. 4, [52]) and in which the case structure includes an aperture arrangement including at least two apertures (Fig. 2, [46]; Fig. 3, [48]) in connection with at least part of the optics is arranged for exposing the image sensor directly from the outside, which aperture arrangement is arranged in at least two exposure directions at least to the display-component side and to an opposite side relative to the display component (Fig. 2; Fig. 3), and in which:

- imaging is performed (col. 2, lines 63-64),



Vance does not teach the image sensor and at least part of the said optics is oriented by rotating them to the selected exposure direction without directing the orienting operations to the actual case structure of the device and that the image sensor and the said part of the optics are linearly moved in the case structure, in order to permit their rotation. Arai teaches that the entire camera unit, including the image sensor (Fig. 3, [33]), is rotatable in at least two directions (Fig. 1), to the display side and the opposite side relative to the display and the optics and image sensor are linearly arranged therein to permit the rotation (Fig. 3). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included the rotation of the image sensor as taught by Arai in the invention taught by Vance in order to insure proper alignment of the optical path with the imaging sensor surface.

16. Regarding Claim 8, Vance in view of Arai teaches the invention as claimed above. Vance additionally teaches that the part of the aperture arrangement not in use at the time is shut off (Fig. 7, [90]) from the aperture arrangement (col. 5, lines 25-27).

17. Regarding Claim 10, Vance discloses an image sensor (Fig. 4, [32]), which can fitted to an electronic device (Fig. 2), which electronic device includes:

- a case structure (Fig. 2, [40]);
- a display component (Fig. 2, [26]) arranged in connection with the case structure;
- camera devices (Fig. 4) that can be oriented, fitted inside the case structure;
- including the said entirely internally fitted image sensor (Fig. 4, [32]) and optics (Fig. 4, [52]);

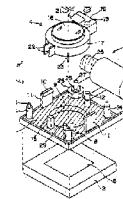
- an aperture arrangement including at least two apertures fitted in the case structure in connection with which aperture arrangement at least part of the optics is arranged, for exposing the image sensor directly from the outside (Fig. 2, [46]; Fig. 3, [48]);

Vance does not teach that the image sensor is arranged to be rotatable to at least two exposure directions, at least to the display component side and to an opposite side relative to the display component, according to which exposure directions the aperture arrangement is arranged in the case structure and at least part of the optics is arranged to be rotatable along with the image sensor characterized in that the image sensor and the optics arranged in connection with it can be linearly moved in the case structure, in order to permit their rotation. Arai teaches that the entire camera unit, including the image sensor (Fig. 3, [33]), is rotatable in at least two directions (Fig. 1), to the display side and the opposite side relative to the display and the optics and image sensor are linearly arranged therein to permit the rotation (Fig. 3). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included the rotation of the image sensor as taught by Arai in the invention taught by Vance in order to insure proper alignment of the optical path with the imaging sensor surface.

18. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vance in view of Arai as applied to claim 1 above, and further in view of Kuchimaru, Pub. No. US 2005/0047770 (hereafter referred to as 'Kuchimaru').

19. Regarding Claim 2, Vance in view of Arai teaches the invention as claimed above. Neither Vance nor Arai teach that at least part of the optics is equipped with actuator devices in order to permit alteration of the focal length. Kuchimaru teaches an optical structure of a camera device (Fig. 1, [1A]), installed in a mobile phone or similar, which permits adjustment of focal length (p. 3, ¶ [0051]). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included the adjustable focal length mechanism taught by Kuchimaru in the invention taught by Vance in view of Arai for the purpose of focusing the image sharply to avoid blurring.

20. Regarding Claim 3, Vance in view of Arai teaches the invention as claimed above. Neither Vance nor Arai teach that at least part of the optics is arranged for close-up imaging. Kuchimaru teaches an optical structure of a camera device (Fig. 1, [1A]), installed in a mobile phone or similar, which includes a zooming capability (p. 3, ¶ [0053]). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included the zooming function taught by Kuchimaru in the invention taught by Vance in view of Arai in order to achieve close-up or more detailed images.

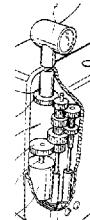


21. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vance in view of Arai as applied to claim 7 above, and further in view of Tseng et al., U.S. Patent No. 6,266,090 (hereafter referred to as 'Tseng').

22. Regarding Claim 9, Vance in view of Arai teaches the invention as claimed above. Neither Vance nor Arai teach that the rotation of the image sensor and the optics

is motorized. Tseng teaches a motor and gears used to rotate a lens in a camera (Fig. 1, [1, 2]). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included the motor mechanism taught by Tseng in the invention taught by Vance in view of Arai for the purpose of automating the rotation of the camera unit. Further, it has been held that providing an automatic or mechanical means to replace a manual activity which accomplished the same result is not sufficient to distinguish over the prior art.

(See MPEP 2144.04 III.)



Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Nagai et al., Pub. No. US 2004/0012701.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AUTUMN PARKER whose telephone number is (571)270-3916. The examiner can normally be reached on Mon-Thurs, 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AP
11 June 2008

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